

Natural Gas-Fired Combustion Turbine BACT Information

BACT

Best available control technology (BACT) is a set of standards that are required for any major new or modified sources in attainment areas. The BACT table also makes recommendations of technology that will contribute to achieving the standards. Below is a summary of the BACT Table for both combined cycle and simple cycle natural gas turbines. These BACT requirements include NO_x from the HRSG duct burners.

Summary of Tier 1 BACT Table

Unit Type	Date of Last Update	NO _x
Turbine: combined cycle, natural gas	10/1/2018	2.0 ppmvd at 15% O ₂ , 24-hour average, typically achieved with dry low NO _x burner, water/steam injection, limiting fuel consumption, or SCR. Specify numeric value and proposed technique.
Turbine: simple cycle, natural gas	10/1/2018	5.0 to 9.0 ppmvd at 15% O ₂ , typically achieved with dry low NO _x burner, water/steam injection, limiting fuel consumption, or SCR. Specify numeric value and proposed technique.

Historical BACT Requirements

Summary of 1996-1999 Table

Source Type	Pollutant	Minimum Acceptable Control	Control Efficiency or Details
Gas-Fired Turbine >20 MW	NO _x	9-15 ppm @15% O ₂	Dry Low NO _x Burner
Gas-Fired Turbine <20 MW	NO _x	25-42 ppm @ 15% O ₂	Dry Low NO _x Burner

Summary of 2000-2006 Table

Source Type	Pollutant	Minimum Acceptable Control	Control Efficiency or Details
Gas-Fired Turbine <2500 hours/year	NO _x	9-15 ppmvd @ 15% O ₂	Dry Low NO _x Burner, SCR, Does not include EGUs
Gas-Fired Simple Cycle	NO _x	9 ppmvd @15% O ₂	Dry Low NO _x Burner, SCR, Does not include EGUs
Gas-Fired Turbine Combined Cycle	NO _x	5 ppmvd @15% O ₂	Dry Low NO _x Burner, SCR, Does not include EGUs
Gas-Fired Turbine Combined Cycle with Duct Burner	NO _x	5 ppmvd @15% O ₂	Dry Low NO _x Burner, SCR, Does not include EGUs
Electric Generating Units >10MW	NO _x	.014 lb/MWh (>300 hr/yr) 0.38 lb/MWh (<300 hr/yr)	May Be Authorized by a Standard Permit
Electric Generating Units < 10MW (East Texas)	NO _x	1.77 lb/MWh	May Be Authorized By Standard Permit Units Firing Landfill Gas, Oil Field Gas, or Digester Gas With Less Than .5 grains H ₂ S or 30 grains Sulfur
		0.47 lb/MWh (>300 hr/yr) 1.65 lb/MWh (<300 hr/yr)	May Be Authorized By Standard Permit Units Installed before 1/1/2005
		0.14 lb/MWh (>300 hr/yr) 0.47 lb/MWh (<300 hr/yr)	May Be Authorized By Standard Permit Units Installed On or After 1/1/2005
Electric Generating Units < 10MW (West Texas)	NO _x	3.11 lb/MWh (> 300 hr/yr) 21 lb/MWh (<300 hr/yr)	May be Authorized By Standard Permit